WEST Search History

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DATE: Monday, January 05, 2004

Hide?	Set Name	Query	Hit Count
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☐	L1	chaperone.ti.	12

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FILE 'HOME' ENTERED AT 14:08:57 ON 05 JAN 2004

=> file caplus
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FULL ESTIMATED COST                                         0.21       0.21

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FILE COVERS 1907 - 5 Jan 2004  VOL 140 ISS 2
FILE LAST UPDATED: 4 Jan 2004  (20040104/ED)

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E2            2     KATSANIS DAVID J/AU
E3            0 --> KATSANIS E/AU
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L1   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2004 ACS on STN
AN   2000:869060  CAPLUS
DN   135:18230
TI   Tumor-derived multiple chaperone enrichment by free-solution isoelectric
     focusing yields potent antitumor vaccines
AU   Graner, Michael; Raymond, Amy; Akporiaye, Emmanuel; Katsanis,
     Emmanuel
CS   Department of Pediatrics, Steele Memorial Children's Research Center,
     University of Arizona, Tucson, AZ, 85724-5073, USA
SO   Cancer Immunology Immunotherapy (2000), 49(9), 476-484
     CODEN: CIIMDN; ISSN: 0340-7004
PB   Springer-Verlag
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DT Journal
LA English
RE.CNT 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:242976 CAPLUS
DN 133:236554
TI Immunoprotective activities of multiple chaperone proteins isolated from murine B-cell leukemia/lymphoma
AU Graner, Michael; Raymond, Amy; Romney, Davis; He, Lin; Whitesell, Luke; **Katsanis, Emmanuel**
CS Department of Pediatrics, Steele Memorial Children's Research Center, University of Arizona, Tucson, AZ, 85724-5073, USA
SO Clinical Cancer Research (**2000**), 6(3), 909-915
CODEN: CCREF4; ISSN: 1078-0432
PB American Association for Cancer Research
DT Journal
LA English
RE.CNT 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L1 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
AN 2000:183681 CAPLUS
DN 132:329629
TI Effects of geldanamycin, a heat-shock protein 90-binding agent, on T cell function and T cell nonreceptor protein tyrosine kinases
AU Yorgin, Peter D.; Hartson, Steven D.; Fellah, Abdul M.; Scroggins, Bradley T.; Huang, Wenjun; **Katsanis, Emmanuel**; Couchman, Jeff M.; Matts, Robert L.; Whitesell, Luke
CS Department of Pediatrics, Steele Memorial Children's Research Center, University of Arizona, Tucson, AZ, 85724, USA
SO Journal of Immunology (**2000**), 164(6), 2915-2923
CODEN: JOIMA3; ISSN: 0022-1767
PB American Association of Immunologists
DT Journal
LA English
RE.CNT 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> file embase biosis medlin

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	8.13	8.34

FILE 'EMBASE' ENTERED AT 14:10:45 ON 05 JAN 2004
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FILE 'MEDLINE' ENTERED AT 14:10:45 ON 05 JAN 2004

=> e katsanis e/au

E1	2	KATSANIKOU E/AU
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E5	38	KATSANIS EMMANUEL/AU
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E7	2	KATSANIS G P/AU
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E9	70	KATSANIS J/AU
E10	21	KATSANIS JOANNA/AU

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E11          1     KATSANIS KATERINA/AU
E12         72     KATSANIS N/AU

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MISSING OPERATOR

=> s (e3 or e5) and py=2000
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=> d 1-3

L3   ANSWER 1 OF 3  EMBASE  COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
     on STN                                              DUPLICATE 1
AN   2000099675  EMBASE
TI   Effects of geldanamycin, a heat-shock protein 90-binding agent, on T cell
     function and T cell nonreceptor protein tyrosine kinases.
AU   Yorgin P.D.; Hartson S.D.; Fellah A.M.; Seroggins B.T.; Huang W.;
     Katsanis E.; Couchman J.M.; Matts R.L.; Whitesell L.
CS   Dr. P.D. Yorgin, Section of Pediatric Nephrology, Stanford University
     Medical Center, L. Salter Packard Children's Hosp., 703 Welch Road, Palo
     Alto, CA 94303, United States. pyorgin@stanford.edu
SO   Journal of Immunology, (15 Mar 2000) 164/6 (2915-2923).
     Refs: 46
     ISSN: 0022-1767  CODEN: JOIMA3
CY   United States
DT   Journal; Article
FS   026     Immunology, Serology and Transplantation
     037     Drug Literature Index
LA   English
SL   English

L3   ANSWER 2 OF 3  EMBASE  COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
     on STN                                              DUPLICATE 2
AN   2000106907  EMBASE
TI   Immunoprotective activities of multiple chaperone proteins isolated from
     murine B-cell leukemia/lymphoma.
AU   Graner M.; Raymond A.; Romney D.; He L.; Whitesell L.; Katsanis E.
CS   E. Katsanis, University of Arizona, Department of Pediatrics, 1501 North
     Campbell Avenue, Tucson, AZ 85724-5073, United States.
     katsanis@peds.arizona.edu
SO   Clinical Cancer Research, (2000) 6/3 (909-915).
     Refs: 40
     ISSN: 1078-0432  CODEN: CCREF4
CY   United States
DT   Journal; Article
FS   016     Cancer
     025     Hematology
     026     Immunology, Serology and Transplantation
     037     Drug Literature Index
LA   English
SL   English

L3   ANSWER 3 OF 3  EMBASE  COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED.
     on STN                                              DUPLICATE 3
AN   2000386462  EMBASE
TI   Tumor-derived multiple chaperone enrichment by free-solution isoelectric
     focusing yields potent antitumor vaccines.
AU   Graner M.; Raymond A.; Akporiaye E.; Katsanis E.
CS   E. Katsanis, Department of Pediatrics, Steele Memorial Children's Res.
     Ctr., University of Arizona, 1501 N. Campbell Ave, Tucson, AZ 85724-5073,
```

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     United States. katsanis@peds.arizona.edu
SO   Cancer Immunology Immunotherapy, (2000) 49/9 (476-484).
     Refs: 43
     ISSN: 0340-7004  CODEN: CIIMDN
CY   Germany
DT   Journal; Article
FS   026     Immunology, Serology and Transplantation
     037     Drug Literature Index
LA   English
SL   English


=> index bioscience
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FULL ESTIMATED COST                                     9.74      18.08

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       BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT,
       CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DISSABS, DDFB, DDFU,
       DGENE, DRUGB, DRUGMONOG2, ...' ENTERED AT 14:12:34 ON 05 JAN 2004

68 FILES IN THE FILE LIST IN STNINDEX

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search error messages that display as 0* with SET DETAIL OFF.

=> s (keystone symposia on cellular immunity)/ti
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          0*  FILE BIOCOMMERCE
          0*  FILE DRUGMONOG2
          0*  FILE IMSRESEARCH
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          0*  FILE FOREGE
          0*  FILE IMSPRODUCT
          0*  FILE PHAR
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L4   QUE (KEYSTONE SYMPOSIA ON CELLULAR IMMUNITY)/TI

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  49 FILES SEARCHED...
          3   FILE PROMT
  66 FILES SEARCHED...

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L5   QUE (KEYSTONE SYMPOSIA ON CELLULAR IMMUNITY)

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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
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FULL ESTIMATED COST                                     2.20      20.28

FILE 'PROMT' ENTERED AT 14:14:47 ON 05 JAN 2004
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 FILE COVERS 1978 TO 3 JAN 2004 (20040103/ED)

 This file contains CAS Registry Numbers for easy and accurate
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=> d bib 1-3

L6   ANSWER 1 OF 3  PROMT  COPYRIGHT 2004 Gale Group on STN

AN   2000:254450  PROMT
TI   The Immune Response Corporation Announces Preclinical Results for A
     Genetically Engineered Cancer Vaccine.
SO   PR Newswire, (7 Apr 2000) pp. 1854.
PB   PR Newswire Association, Inc.
DT   Newsletter
LA   English
WC   878
     *FULL TEXT IS AVAILABLE IN THE ALL FORMAT*

L6   ANSWER 2 OF 3  PROMT  COPYRIGHT 2004 Gale Group on STN

AN   2000:150522  PROMT
TI   OTHER NEWS TO NOTE.
SO   BIOWORLD Today, (23 Feb 2000) Vol. 11, No. 35.
PB   American Health Consultants, Inc.
DT   Newsletter
LA   English
WC   823
     *FULL TEXT IS AVAILABLE IN THE ALL FORMAT*

L6   ANSWER 3 OF 3  PROMT  COPYRIGHT 2004 Gale Group on STN

AN   2000:66362  PROMT
TI   Biomira Presents Encouraging Phase I BLP25 Vaccine Survival Data in
     Non-Small Cell Lung Cancer Patients at Keystone Symposium.
SO   PR Newswire, (26 Jan 2000) pp. 131.
PB   PR Newswire Association, Inc.
DT   Newsletter
LA   English
WC   721
     *FULL TEXT IS AVAILABLE IN THE ALL FORMAT*


=> FIL STNGUIDE
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
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FULL ESTIMATED COST                                     7.69      27.97

FILE 'STNGUIDE' ENTERED AT 14:15:57 ON 05 JAN 2004
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=> d 3 all

L6 ANSWER 3 OF 3 PROMT COPYRIGHT 2004 Gale Group on STN

AN 2000:66362 PROMT
TI Biomira Presents Encouraging Phase I BLP25 Vaccine Survival Data in Non-Small Cell Lung Cancer Patients at Keystone Symposium.
SO PR Newswire, (26 Jan 2000) pp. 131.
PB PR Newswire Association, Inc.
DT Newsletter
LA English
WC 721
TX EDMONTON, Alberta, Jan. 26 /PRNewswire/ -- Biomira Inc. (Nasdaq: BIOM) (Toronto: BRA.) announced it presented data at a **Keystone Symposia** entitled "**Cellular Immunity** and Immunotherapy of Cancer," in Santa Fe, New Mexico. The presentation given yesterday included data from its Phase I and Phase II BLP25 vaccine trials, indicating strong MUC1 specific T-cell proliferation in patients with non-small cell lung cancer. Encouraging survival observations were also reported from the Phase I clinical trial.

The Phase I BLP25 vaccine trial, in which enrollment was completed in March 1999, gathered safety, immunological and survival data on 17 highly selected non-small cell lung cancer patients randomized to be treated with either 20 mg or 200 mg doses of the vaccine. Preliminary immunology data demonstrated the induction of a cytotoxic T-lymphocyte (CTL) response able to kill tumor cells, in five out of the 12 evaluable non-small cell lung cancer patients from both arms of the study. The median survival time of patients treated with the 20 mg dose regimen was 5.4 months from the time of entry to the study. The Kaplan-Meier projection of the median survival of the 200 mg dose regimen group is 14.7 months from the time of entry to the study, with three of the eight patients (36.5%) still alive. BLP25 vaccine was found to be well tolerated and is relatively non-toxic.

"We are moving aggressively with this vaccine program and are sufficiently encouraged by these early results that we are considering developing a proposal for a pivotal, randomized and comparative Phase IIb study. The purpose of this trial would be to determine the survival advantage of the vaccine in addition to standard treatment compared to standard treatment alone for patients with metastatic non-small cell lung cancer. With three patients still alive in our Phase I study, the final median survival of the 200 mg dose regimen group after the data is fully mature, could range from 11.5 to 14.7 months. This data is only calculated from the time the patients entered the clinical trial and not from their earlier time of diagnosis. This is despite the fact that we suspect that the 200 mg dose is still below the optimal dose," said Alex McPherson, MD, PhD, President and CEO of Biomira. Biomira is currently conducting a Phase II clinical trial program to determine how to optimize the immune response against the vaccine in patients with non-small cell lung cancer. The Phase II program examined the effect of a higher dose (1000 mg) of the BLP25 vaccine. Enrollment for this stage was completed in December 1999. The higher dose has induced a strong MUC1 specific T-cell proliferation response in five out of seven evaluable patients. This observation is very encouraging in view of the important role of TH1 responses in controlling cancer.

Yesterday, Biomira also announced the initiation of the second stage of its Phase II clinical trial program with BLP25 vaccine to determine if the effect of the vaccine is enhanced by the addition of Liposomal IL-2, while maintaining a satisfactory safety profile.

BLP25 vaccine incorporates a synthetic 25-amino acid sequence of the MUC-1 cancer mucin, encapsulated in a synthetic liposomal delivery system. The liposome facilitates better delivery to the immune system and enhances recognition of the cancer antigen by the immune system. BLP25 vaccine is an investigational therapeutic vaccine designed to induce an immune response to cancer cells.

Biomira is a biotechnology company specializing in the development of innovative therapeutic approaches to cancer management. The company is currently enrolling up to 900 evaluable patients in a multinational Phase III trial with THERATOPE(R) vaccine, as well as developing a portfolio of complimentary vaccine candidates, including BLP25 vaccine for non-small cell lung cancer, now in phase II trials. The commitment to the treatment of cancer currently focuses on the development of synthetic vaccines and novel strategies for cancer immunotherapy. We are The Cancer Vaccine People(TM).

This release may contain forward-looking statements. Various factors could cause actual results to differ materially from those projected in forward-looking statements, including those predicting the timing of clinical trials or the efficacy of products. Although the Company believes that the forward-looking statements contained herein are reasonable, it can give no assurance that the Company's expectations are correct. All forward-looking statements are expressly qualified in their entirety by this cautionary statement.

CT *PC2831200 Vaccines & Antigens for Human Use
CO *Biomira Inc.
ICL *BUS Business, General; BUSN Any type of business
NAIC *325414 Biological Product (except Diagnostic) Manufacturing
GT *CC1CANA Canada
FEAT COMPANY

=> d 1-2 all
YOU HAVE REQUESTED DATA FROM FILE 'PROMT' - CONTINUE? (Y)/N:y

L6 ANSWER 1 OF 3 PROMT COPYRIGHT 2004 Gale Group on STN

AN 2000:254450 PROMT
TI The Immune Response Corporation Announces Preclinical Results for A Genetically Engineered Cancer Vaccine.
SO PR Newswire, (7 Apr 2000) pp. 1854.
PB PR Newswire Association, Inc.
DT Newsletter
LA English
WC 878
TX Membrane-Bound GM-CSF Tumor Cell Vaccine Protects Against Aggressive Melanoma

CARLSBAD, Calif., Feb. 22 /PRNewswire/ --

The Immune Response Corporation (Nasdaq: IMNR) announced today that a new patented gene therapy approach for a possible cancer vaccine, which uses tumor cells genetically modified to express a membrane form of the cytokine GM-CSF (Granulocyte-Macrophage Colony-Stimulating Factor) on the cell surface, appears to protect against an aggressive form of melanoma (skin cancer) in animal models. The results were recently reported at the **Keystone Symposia** on **Cellular Immunity** and Immunotherapy of Cancer in Santa Fe, New Mexico, by Dr. Soonpin Yei, Scientific Investigator.

GM-CSF is a naturally occurring protein that helps orchestrate immune responses and has been shown in preclinical and clinical studies to boost the immune system's ability to recognize and destroy tumor cells.

"Results suggest that tumor cell-based vaccines engineered to express mbGM-CSF on their surface, rather than secrete the cytokine, may represent a promising approach to stimulating the immune system against this aggressive form of melanoma," said Dr. Richard M. Bartholomew, Executive Director of Research Operations at The Immune Response Corporation. "The data also indicate that long lasting protective immunity may result from this form of mbGM-CSF tumor cell vaccine."

"Previous results of this technology showed that the mbGM-CSF cancer vaccine could effectively lead to rejection of established tumor," said Dr. Bartholomew. "We have extended these studies to the much more aggressive B16

melanoma animal model and have shown that the mbGM-CSF tumor cell vaccine appears to induce protective immunity to challenge with viable melanoma tumor cells."

The study reported at the symposia involved three experimental groups of mice, which were challenged with viable tumor cells after having been immunized with either (1) inactivated tumor cells lacking mbGM-CSF (n=10), (2) inactivated tumor cells genetically modified to express mbGM-CSF on the cell surface (n=10), or (3) inactivated tumor cells engineered to secrete GM-CSF (rather than express it on the cell surface) (n=10). Nine out of 10 animals in the first group grew large tumors and died from their disease by day 43 after tumor challenge. In contrast, the second group of animals, which was administered the tumor cell vaccine genetically engineered to express GM-CSF on the cell surface, had much smaller tumors, and 70% of these animals were still alive at day 43. Furthermore, surviving animals were also protected against a second tumor challenge after 5 months. Finally, over 80% of the mice in the third group vaccinated with cancer cells engineered to secrete GM- CSF were dead at day 43.

"Currently, we are evaluating the efficacy of combining mbGM-CSF technology with a second patented technology for cancer vaccines, which utilizes fibroblasts (skin cells) genetically engineered to secrete another cytokine, interleukin-2 (IL-2)," said Dennis J. Carlo, Ph.D., President and CEO. "In collaboration with Sidney Kimmel Cancer Center, we have shown that our investigational IL-2 colon cancer vaccine appears to induce immunity in colon cancer patients. We believe that combining the two vaccine approaches may yield an even more effective vaccine capable of inducing strong immune responses to the patients' tumors."

Based on these preclinical results, the Company plans to test the mbGM-CSF technology as part of its ongoing clinical vaccine program in development for colon, glioma, melanoma and prostate cancers.

Results of mbGM-CSF tumor cell technology were first published last year in the Journal of Immunology (Soo Hoo, et al., 1999, Volume 162, pages 7343-7349). The Company was also issued U.S. Patent Number 5,891,432 covering the technology in April 1999.

GM-CSF background

GM-CSF enhances the ability of the immune system to recognize molecules called antigens found on the surface of the tumor cells contained in the vaccine. The immune system can only recognize these tumor-associated antigens when they are bound to specialized cells called "antigen presenters." GM-CSF most likely stimulates the immune system by augmenting the interaction between tumor-associated antigens found in the vaccine and professional antigen presenting cells, notably dendritic cells

at the site of injection.

The Immune Response Corporation is a biopharmaceutical company based in Carlsbad, California, developing immune-based therapies to induce specific T-cell responses for the treatment of HIV and autoimmune diseases. In addition, the Company is working on cancer vaccines and gene therapy.

NOTE: News releases are available through PR Newswire Company News On-Call fax service. For a menu of available news releases or to retrieve a specific release made by The Immune Response Corporation, please call 800-758- 5804, extension 434675. Please retain these numbers for future reference. Company information can also be located on the Internet Web Site: http://www.imnr.com.

This news release contains forward-looking statements. Actual results could vary materially from those expected due to a variety of risk factors, including, but not limited to, whether clinical trials will ever be conducted and whether a product will be successfully developed and approved for marketing. Those factors are discussed more thoroughly in The Immune Response Corporation's SEC filings, including but not limited to its report on Form 10- K for the year ended December 31, 1998 and subsequent Forms 10-Q. The Company undertakes no obligation to publicly release the result of any revisions to these forward-looking statements which may be made to reflect events or circumstances after the date hereof or to reflect the occurrence of unanticipated events.

CT *PC2830000 Drugs & Pharmaceuticals
CO *Immune Response Corp. (Ticker Symbol: IMNR)
ICL *BUS Business, General; BUSN Any type of business
NAIC *3254 Pharmaceutical and Medicine Manufacturing
FEAT INDUSTRY; COMPANY

L6 ANSWER 2 OF 3 PROMT COPYRIGHT 2004 Gale Group on STN

AN 2000:150522 PROMT
TI OTHER NEWS TO NOTE.
SO BIOWORLD Today, (23 Feb 2000) Vol. 11, No. 35.
PB American Health Consultants, Inc.
DT Newsletter
LA English
WC 823
TX Akkadix Corp., of La Jolla, Calif., exclusively inlicensed novel gene-based technologies from the South Carolina Research Institution (SCRI) at the University of South Carolina. The technologies are based on both issued and filed patents of Vicki Vance, a professor of biological sciences at the university. The technologies may be used to ensure durable, high- level expression of transgenes in crop plants. Akkadix also entered into a three-year research agreement with SCRI to fund Vance's research on a viral defense action in plants known as post-transcriptional gene silencing.

Bay City Capital, of San Francisco, closed a $145 million North American Nutrition and Agribusiness Fund. The fund's purpose will be enabling technologies such as genomics, bioinformatics, combinatorial chemical and proteomics where development and use is primarily focused on applications in nutritional and agricultural products, as well as technologies supporting production, output quality traits, processing and logistics.

Cypress Bioscience Inc., of San Diego, said the Health Care Financing Administration (HCFA) will review its Prosorba column for rheumatoid arthritis. The review is intended to clarify coverage issues relating to the column's use for RA. The column was approved by the FDA in April for rheumatoid arthritis, and earlier for the treatment of idiopathic thrombocytopenic purpura (ITP). So far the column is covered by Medicare

for ITP and for rheumatoid arthritis by local Medicare carriers.

Endorex Corp., of Chicago, said that Elan Corp plc, of Dublin, Ireland, entered into a license, co- development and supply agreement with Schein Pharmaceutical Inc., of Florham Park, N.J., to develop and commercialize iron chelating products using Elan's Medipad drug delivery system. The license is for the treatment of certain genetic blood disorders resulting from iron overload. The Medipad system is a minimally invasive micro-infusion pump that allows self administration.

Interleukin Genetics Inc., of San Antonio, said an article in the Journal of Experimental Medicine described a knockout mouse model in which the interleukin-1 receptor antagonist (IL-1ra) gene has been deleted. The IL-1ra gene knockout mice demonstrated severe inflammation in the major arteries and succumbed to ruptured arterial aneurysms or to vessel stenosis and infarctions of the organs served by the arteries. The article provides new biological evidence to support a major role of the IL-1 genes in coronary artery disease, the company said.

DepoMed Inc., of Foster City, Calif., said that its DepoMed formulation called Metformin GR was found to have more bioavailability and a significantly extended blood plasma concentration profile than immediate-release metformin (Glucophage) in a Phase I trial. The company expects to file an investigational new drug application in the second quarter to test it in patients with diabetes.

The Immune Response Corp., of Carlsbad, Calif., said its new gene therapy approach for a possible cancer vaccine appears to protect against an aggressive form of melanoma in animal models. The vaccine uses tumor cells genetically modified to express a membrane form of the cytokine granulocyte macrophage-colony stimulating factor (GM-CSF) on the cell surface. GM- CSF is a naturally occurring protein that helps orchestrate immune responses. The preclinical results suggest that tumor cell-based vaccines engineered to express mbGM-CSF on their surface, rather than secrete the cytokine, may represent a promising approach to stimulating the immune system, the company said. The results were reported at the **Keystone Symposia** on **Cellular Immunity** and Immunotherapy of Cancer in Santa Fe, N.M.

PathoGenesis Corp., of Seattle, said that all eight consolidated putative class action lawsuits filed in March and April against it and two of its officers were dismissed with prejudice by the U.S. District Court of the Western District of Washington. The plaintiffs had claimed that the company and its officers violated certain provisions of the federal securities laws in making statements regarding the company's 1998 financial results and the expected 1999 results. The court determined the plaintiffs failed to state a cause of action.

LJL BioSystems Inc., of Sunnyvale, Calif., completed another milestone in its collaboration with London- based SmithKline Beecham plc with the acceptance and delivery of the first system utilizing LJL's FLARe (Fluorescence Lifetime Assay Trepertoire) technology. The system is already in use for screening compound libraries that are difficult to screen by other fluorescence methods. FLARe is an instrumentation and reagent platform used for drug discovery and genomics challenges.

Orion Genomics LLC, of St. Louis, successfully applied its GeneThresher technology to the genome of wheat (Triticum aestivum). The technology is a new gene discovery tool that enables the discovery of genes within a plant genome without sequencing the repetitive content. At more than five times the size of the human genome, the hexaploid wheat genome is one of the largest of the commercially important agricultural crops.

GenVec Inc., of Gaithersburg, Md., obtained the exclusive rights to the pigment epithelium-derived factor (PEDF) gene from the National Institutes

of Health for the treatment of blindness. PEDF is an antiangiogenic factor that inhibits new blood vessel formation and may be a key to treating macular degeneration and diabetic retinopathy.

Subscription: $1350.00 per year. Published daily (5 times a week). Box 740021, Atlanta, GA 30374.

CT *PC8521212 Genetic Engineering; PC8510000 Research & Development; PC9124500 Health Care Financing Admin; PC6726000 Venture Capital Companies; PC8000291 Ophthalmic R&D; PC2834291 Ophthalmic Drugs

CC *EC930 Government regulation; EC331 Product development; EC310 Science & research; EC389 Alliances, partnerships; EC250 Financial management

CO *Akkadix; Bay City Capital L.L.C.; Cypress Bioscience Inc.; Endorex Corp.; Elan Corporation PLC; Schein Pharmaceutical Inc.; Interleukin Genetics Inc.; DepoMed Inc.; Immune Response Corp.; PathoGenesis Corp.; LJL Biosystems Inc.; SmithKline Beecham PLC; Orion Genomics L.L.C.; GenVec Inc.

ICL *BIO Biotechnology; BUSN Any type of business

NAIC *54171 Research and Development in the Physical, Engineering, and Life Sciences; 5417 Scientific Research and Development Services; 92312 Administration of Public Health Programs; 52391 Miscellaneous Intermediation; 325412 Pharmaceutical Preparation Manufacturing

GT *CC1USA United States

FEAT LOB; INDUSTRY; COMPANY

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FULL ESTIMATED COST	0.06	40.34

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* * * * * * * * * * * * * STN Columbus * * * * * * * * * * * * * * *

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=> file caplus

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FILE LAST UPDATED: 4 Jan 2004 (20040104/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> s chaperon?/pur
          2569 CHAPERON?/CT
        187044 PUR/RL
L1          79 CHAPERON?/PUR
                 (CHAPERON?/CT (L) PUR/RL)

=> s l1 and (ief or isoelectric focusing)
          2322 IEF
            18 IEFS
          2333 IEF
                 (IEF OR IEFS)
          8997 ISOELECTRIC
         41467 ISOELEC
             1 ISOELECS
         41467 ISOELEC
                 (ISOELEC OR ISOELECS)
         42976 ISOELECTRIC
                 (ISOELECTRIC OR ISOELEC)
         56931 FOCUSING
            12 FOCUSINGS
         56938 FOCUSING
                 (FOCUSING OR FOCUSINGS)
         17957 ISOELECTRIC FOCUSING
                 (ISOELECTRIC(W)FOCUSING)
L2           0 L1 AND (IEF OR ISOELECTRIC FOCUSING)

=> index bioscience
FILE 'DRUGMONOG' ACCESS NOT AUTHORIZED
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                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         9.96      10.17

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS,
       BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT,
       CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DISSABS, DDFB, DDFU,
       DGENE, DRUGB, DRUGMONOG2, ...' ENTERED AT 14:29:00 ON 05 JAN 2004

68 FILES IN THE FILE LIST IN STNINDEX

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=> s chaperon? and (ief or isoelectric focusing)
          28   FILE BIOSIS
           1   FILE BIOTECHABS
           1   FILE BIOTECHDS
          16   FILE BIOTECHNO
           1   FILE CABA
           7   FILE CANCERLIT
          29   FILE CAPLUS
           1   FILE DISSABS
           3   FILE DDFU
           3   FILE DRUGU
          26   FILE EMBASE
          27   FILE ESBIOBASE
  36 FILES SEARCHED...
           1   FILE FSTA
           6   FILE IFIPAT
           6   FILE LIFESCI
          32   FILE MEDLINE
           5   FILE PASCAL
          33   FILE SCISEARCH
           7   FILE TOXCENTER
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        164   FILE USPATFULL
          6   FILE USPAT2
          1   FILE WPIDS
          1   FILE WPINDEX

  23 FILES HAVE ONE OR MORE ANSWERS,   68 FILES SEARCHED IN STNINDEX

L3    QUE CHAPERON? AND (IEF OR ISOELECTRIC FOCUSING)

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=> s l3 and py<2001
          0*  FILE ADISINSIGHT
   7 FILES SEARCHED...
         17   FILE BIOSIS
          1   FILE BIOTECHABS
          1   FILE BIOTECHDS
         10   FILE BIOTECHNO
          1   FILE CABA
  13 FILES SEARCHED...
          6   FILE CANCERLIT
         17   FILE CAPLUS
  18 FILES SEARCHED...
          0*  FILE CONFSCI
          1   FILE DISSABS
          1   FILE DDFU
          1   FILE DRUGU
         17   FILE EMBASE
  32 FILES SEARCHED...
         20   FILE ESBIOBASE
          0*  FILE FEDRIP
          0*  FILE FOREGE
          1   FILE FSTA
          4   FILE LIFESCI
  45 FILES SEARCHED...
          0*  FILE MEDICONF
         19   FILE MEDLINE
          4   FILE PASCAL
  52 FILES SEARCHED...
          0*  FILE PHAR
         25   FILE SCISEARCH
          4   FILE TOXCENTER
  62 FILES SEARCHED...
         35   FILE USPATFULL
  67 FILES SEARCHED...

  19 FILES HAVE ONE OR MORE ANSWERS,   68 FILES SEARCHED IN STNINDEX

L4    QUE L3 AND PY<2001

=> d rank
F1          35   USPATFULL
F2          25   SCISEARCH
F3          20   ESBIOBASE
F4          19   MEDLINE
F5          17   BIOSIS
F6          17   CAPLUS
F7          17   EMBASE
F8          10   BIOTECHNO
F9           6   CANCERLIT
F10          4   LIFESCI
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F11          4   PASCAL
F12          4   TOXCENTER
F13          1   BIOTECHABS
F14          1   BIOTECHDS
F15          1   CABA
F16          1   DISSABS
F17          1   DDFU
F18          1   DRUGU
F19          1   FSTA


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                                                         ENTRY    SESSION
FULL ESTIMATED COST                                       5.50      15.67

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   3 FILES SEARCHED...
   6 FILES SEARCHED...
  10 FILES SEARCHED...
  13 FILES SEARCHED...
L5   148 L4

=> dup rem l5
PROCESSING COMPLETED FOR L5
L6   52 DUP REM L5 (96 DUPLICATES REMOVED)
                ANSWERS '1-25' FROM FILE SCISEARCH
                ANSWERS '26-35' FROM FILE ESBIOBASE
                ANSWERS '36-42' FROM FILE MEDLINE
                ANSWERS '43-44' FROM FILE BIOSIS
                ANSWERS '45-47' FROM FILE CAPLUS
                ANSWERS '48-50' FROM FILE EMBASE
                ANSWER '51' FROM FILE BIOTECHDS
                ANSWER '52' FROM FILE DISSABS

=> s l6 and (purif? or prepar? or isolat?)
  10 FILES SEARCHED...
L7   30 L6 AND (PURIF? OR PREPAR? OR ISOLAT?)

=> d bib abs 1-30

L7   ANSWER 1 OF 30 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN   2000:843945 SCISEARCH
GA   The Genuine Article (R) Number: 370EX
TI   Tumor-derived multiple **chaperone** enrichment by free-solution
     isoelectric focusing yields potent antitumor vaccines
AU   Graner M; Raymond A; Akporiaye E; Katsanis E (Reprint)
CS   UNIV ARIZONA, STEELE MEM CHILDRENS RES CTR, DEPT PEDIAT, 1501 N CAMPBELL
     AVE, POB 245073, TUCSON, AZ 85724 (Reprint); UNIV ARIZONA, STEELE MEM
     CHILDRENS RES CTR, DEPT PEDIAT, TUCSON, AZ 85724; UNIV ARIZONA, DEPT
     MICROBIOL & IMMUNOL, TUCSON, AZ 85724
CYA USA
SO   CANCER IMMUNOLOGY IMMUNOTHERAPY, (**NOV 2000**) Vol. 49, No. 9, pp.
     476-484.
     Publisher: SPRINGER-VERLAG, 175 FIFTH AVE, NEW YORK, NY 10010.
     ISSN: 0340-7004.
DT   Article; Journal
FS   LIFE
LA   English
REC Reference Count: 43
     ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB   We have utilized a free-solution/**isoelectric focusing**
     technique (FS-**IEF**) to obtain fractions rich in multiple
     chaperone proteins from clarified A20 tumor lysates. Vaccines
     prepared from **chaperone**-rich fractions are capable of
     providing protective immunity in mice subsequently challenged
     intravenously with the same A20 B cell leukemia cells. This protection is
     at least equal to that provided by **purified**, tumor-derived
     heat-shock protein 70, which was the best **chaperone** immunogen in
     our hands against this aggressive murine leukemia model. Dosage escalation
     studies, however, revealed that increasing vaccine dosages actually
     abrogated the protective effects. The physical nature of the enriched
     chaperones indicates that they are associated in complexes, which
     may have implications for their function. FS-**IEF** is relatively

simple, rapid, and efficient, thus making combined multi-**chaperone** therapy feasible.

L7 ANSWER 2 OF 30 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN 2000:514807 SCISEARCH
GA The Genuine Article (R) Number: 330KY
TI Differential translocation or phosphorylation of alpha B crystallin cannot he detected in ischemically preconditioned rabbit cardiomyocytes
AU Armstrong S C (Reprint); Shivell L C; Ganote C E
CS E TENNESSEE STATE UNIV, JAMES H QUILLEN COLL MED, DEPT PATHOL, POB 70568, JOHNSON CITY, TN 37614 (Reprint); VET AFFAIRS MED CTR, JOHNSON CITY, TN 37614
CYA USA
SO JOURNAL OF MOLECULAR AND CELLULAR CARDIOLOGY, (**JUL 2000**) Vol. 32, No. 7, pp. 1301-1314.
Publisher: ACADEMIC PRESS LTD, 24-28 OVAL RD, LONDON NW1 7DX, ENGLAND.
ISSN: 0022-2828.
DT Article; Journal
FS LIFE
LA English
REC Reference Count: 40
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Alpha B Crystallin (alpha BC) is a putative effector protein of ischemic preconditioning (IPC), that is phosphorylated on Ser 45 by ERK1/2 and Ser 59 by the p38 MAPK substrate, MAPKAPK-2. Translocation and phosphorylation of alpha BC was determined in cytosolic and cytoskeletal fractions by In SDS-PACE and **IEF** or using Ser 45 and Ser 59 phospho-specific antibodies in: (1) control rabbit cardiomyocytes: (2) cells preconditioned by 10 min in vitro ischemia; or after pre-treatment with specific inhibitors of (3) Ser/Thr protein phosphatase 1/2A (calyculin A); (4) p38 MAPK(SB203580); or (5) ERK 1/2 (PD98059); all prior to 180 min ischemia. Ischemia induced a cytosolic to cytoskeletal translocation of BU, which was similar in all the groups, Highly phosphorylated isoforms (D1/2) of aBC were present in cytosolic but not cytoskeletal fractions at 0 min ischemia. By 60-90 min ischemia, D1/2 isoforms had translocated to the cytoskeletal fraction, Calyculin A maintained D1/2 levels throughout prolonged ischemia. SB203580 decreased alpha BC phosphorylation. Neither PD98059 nor IPC altered alpha BC phosphorylation during prolonged ischemia. It is concluded that alpha BC phosphorylation during ischemia is regulated. by p38 MAPK but nut by ERK 1/2. The inability to detect a correlation between IPC protection and either alpha BC translocation or phosphorylation suggests that the proteins in the highly phosphorylated isoform bands of alpha BC quantitated in this study are not protective end effecters of classical IPC. (C) 2000 Academic Press.

L7 ANSWER 3 OF 30 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN 2000:242389 SCISEARCH
GA The Genuine Article (R) Number: 296KL
TI Detailed analysis of the phosphorylation of the human La (SS-B) autoantigen. (De)phosphorylation does not affect its subcellular distribution
AU Broekhuis C H D; Neubauer G; vanderHeijden A; Mann M; Proud C G; vanVenrooij W J; Pruijn G J M (Reprint)
CS UNIV NIJMEGEN, DEPT BIOCHEM 161, POB 9101, NL-6500 HB NIJMEGEN, NETHERLANDS (Reprint); UNIV NIJMEGEN, DEPT BIOCHEM 161, NL-6500 HB NIJMEGEN, NETHERLANDS; EUROPEAN MOL BIOL LAB, D-69117 HEIDELBERG, GERMANY; UNIV DUNDEE, DEPT ANAT & PHYSIOL, DUNDEE DD1 5EH, SCOTLAND
CYA NETHERLANDS; GERMANY; SCOTLAND
SO BIOCHEMISTRY, (**21 MAR 2000**) Vol. 39, No. 11, pp. 3023-3033.
Publisher: AMER CHEMICAL SOC, 1155 16TH ST, NW, WASHINGTON, DC 20036.
ISSN: 0006-2960.
DT Article; Journal
FS LIFE
LA English

REC Reference Count: 73
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The La (SS-B) autoantigen is an evolutionarily conserved phosphoprotein which plays an important role, most likely as an RNA **chaperone**, in various processes, such as the biosynthesis and maturation of RNA polymerase III transcripts in the cell nucleus and (internal) initiation of translation in the cytoplasm. In this study, the phosphorylation state of this protein from human HeLa and HEp-2 cells was characterized by high-resolution two-dimensional **IEF**/SDS-PAGE analysis, and phosphorylation sites were mapped by nanoelectrospray mass spectrometry. Furthermore, the effect of phosphorylation at the sites identified on the subcellular distribution of the protein was studied by site-directed mutagenesis, At least 14 isoelectric isoforms were discerned on 2-D gels with La protein from both types of cells. Metabolic labeling in combination with alkaline phosphatase treatment revealed that only a limited number of these isoforms could be attributed to phosphorylation. Four phosphorylation sites, Thr-302, Ser-325, Thr-362, and Ser-366, were mapped by mass spectrometric analysis of the **isolated** La protein from HeLa cells or the carboxy-terminal half of this protein. The analysis of mutants of La, in which the respective phosphorylated residues were replaced by either a neutral (alanine) or an acidic (aspartate) residue, by microinjection into Xenopus laevis oocytes on the one hand and transfection of HEp-2 cells on the other hand revealed that the subcellular distribution of this protein was not affected by these amino acid substitutions. These results strongly suggest that the signals that determine the subcellular distribution of this protein are not regulated by (de)phosphorylation of the target residues examined.

L7 ANSWER 4 OF 30 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN 1998:558706 SCISEARCH
GA The Genuine Article (R) Number: 100CV
TI Subunit exchange of lens alpha-crystallin: a fluorescence energy transfer study with the fluorescent labeled alpha A-crystallin mutant W9F as a probe
AU Sun T X; Akhtar N J; Liang J J N (Reprint)
CS HARVARD UNIV, BRIGHAM & WOMENS HOSP, SCH MED, CTR OPHTHALM RES, 221 LONGWOOD AVE, BOSTON, MA 02115 (Reprint); HARVARD UNIV, BRIGHAM & WOMENS HOSP, SCH MED, CTR OPHTHALM RES, BOSTON, MA 02115
CYA USA
SO FEBS LETTERS, (**3 JUL 1998**) Vol. 430, No. 3, pp. 401-404.
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.
ISSN: 0014-5793.
DT Article; Journal
FS LIFE
LA English
REC Reference Count: 17
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB A Trp-free alpha A-crystallin mutant (W9F) was **prepared** by site-directed mutation. This mutant appears to be identical to the wild-type in terms of conformation (secondary and tertiary structures). W9F was labeled with a sulfhydryl-specific fluorescent probe, 2-(4'-maleimidylanilino) naphthalene-6-sulfonate (MIANS), and used in a subunit exchange between alpha A- and alpha A-crystallins as well as between alpha A- and alpha B-crystallins, studied by measurement of fluorescence resonance energy transfer, Energy transfer was observed between Trp (donor, with emission maximum at 336 nm) of wild-type alpha A- or alpha B-crystallin and MIANS (acceptor, with absorption maximum at 313 nm) of labeled W9F when subunit exchange occurred. Time-dependent decrease of Trp and increase of MIANS fluorescence were recorded. The exchange was faster at 37 degrees C than at 25 degrees C. The energy transfer efficiency was greater between homogeneous subunits (alpha A-alpha A) than between heterogeneous subunits (alpha A-alpha B). A previous exchange study with **isoelectric focusing** indicated a complete but slow exchange between alpha A and alpha B subunits, The present study

showed that the exchange was a fast process, and the different energy transfer efficiencies between alpha A-alpha A and alpha A-alpha B indicated that alpha A- and alpha B-crystallins were not necessarily structurally equivalent. (C) 1998 Federation of European Biochemical Societies.

L7 ANSWER 5 OF 30 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN 1998:532399 SCISEARCH
GA The Genuine Article (R) Number: ZY380
TI Mycobacterial Cpn10 promotes recognition of the mammalian homologue by a mycobacterium-specific antiserum
AU Minto M; Galli G; Gianazza E; Eberini I; Legname G; Fossati G; Modena D; Marcucci F; Mascagni P; Ghezzi P; Fratelli M (Reprint)
CS IST RIC FARMACOL MARIO NEGRI, VIA ERITREA 62, I-20157 MILAN, ITALY (Reprint); IST RIC FARMACOL MARIO NEGRI, I-20157 MILAN, ITALY; UNIV MILAN, IST SCI FARMACOL, I-20133 MILAN, ITALY; ITALFARMACO RES CTR, I-20092 BALSAMO, ITALY
CYA ITALY
SO BIOCHIMICA ET BIOPHYSICA ACTA-MOLECULAR CELL RESEARCH, (**22 JUN 1998**) Vol. 1403, No. 2, pp. 151-157.
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.
ISSN: 0167-4889.
DT Article; Journal
FS LIFE
LA English
REC Reference Count: 30
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Self-tolerance, a key feature of the immune system, is still a matter of intense debate. We give here evidence for a peculiar behavior of an antiserum against Mycobacterium tuberculosis **chaperonin** 10 (m-Cpn10), which could have implications for the mechanism of self-recognition by antibodies against non-self. We show that this antiserum can interact in terms of both inhibition of biological activity and physical association (immunoprecipitation), with the mammalian homologue of m-Cpn 10, but only if the bacterial protein is present. Several lines of evidence led us to exclude that the two proteins physically associate to form heterocomplexes: (1) the behavior of the antiserum was not shared by a monoclonal antibody against m-Cpn10; (2) a matrix selective for human Cpn10 (h-Cpn10) did not co-**purify** m-Cpn10; (3) the distribution pattern in non-denaturing **isoelectric focusing** of labeled m-Cpn10 was not altered by the presence of the unlabeled h-Cpn10, We conclude therefore that the antiserum against M. tuberculosis Cpn10 also recognizes mammalian Cpn10, with an affinity/avidity regulated by the mycobacterial protein, or by the promotion of hetero-oligomerization. This emergence of self-recognition in the presence of M. tuberculosis Cpn10 could imply a breaking of self-tolerance in situations of infection or vaccination. (C) 1998 Elsevier Science B.V.

L7 ANSWER 6 OF 30 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN 97:400281 SCISEARCH
GA The Genuine Article (R) Number: WZ685
TI Mycobacterium tuberculosis **chaperonin** 10 and N-truncated fragments - Their synthesis and **purification** by the **isoelectric focusing** technique carried out in solution
AU Lucietto P L; Fossati G; Ball H L; Giuliani P; Mascagni P (Reprint)
CS ITALFARM RES CTR, VIA LAVORATORI 54, CINISELLO BALSAMO, I-20092 MILAN, ITALY (Reprint); ITALFARM RES CTR, I-20092 MILAN, ITALY
CYA ITALY
SO JOURNAL OF PEPTIDE RESEARCH, (**APR 1997**) Vol. 49, No. 4, pp. 308-323.
Publisher: MUNKSGAARD INT PUBL LTD, 35 NORRE SOGADE, PO BOX 2148, DK-1016 COPENHAGEN, DENMARK.
ISSN: 1397-002X.

DT Article; Journal
FS LIFE
LA English
REC Reference Count: 15
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB The Mycobacterium tuberculosis **chaperonin** 10 protein and fragments corresponding to sequences 59-99, 51-99 and 26-99 were synthesised by the solid-phase methodology using a double coupling protocol and without the aid of capping agents. After the final acid cleavage using the low TFMSA-high HF protocol the polypeptides were **purified** by either the ion exchange chromatography/RP-HPLC combination or the isoelectric separation carried out in solution and followed by semi-**preparative** RP-HPLC. Comparison of the results obtained through the two approaches indicated that in general the isoeletricfocusing/HPLC combination was superior both in terms of recovery of final material and its purity. The advantages found were as follows: (i) Unlike ion exchange chromatography, no tailoring of the separation conditions is required. (ii) Several consecutive focusings can be carried out in progressively narrower pH gradients. This increases the separation resolution without the need of changing other separation parameters. (iii) Very little manipulation is needed, and each focusing requires 3-5 h. (iv) Full compatibility with non-ionic denaturants such as 8 M urea. This increases solubility so that using the ROTOFOR instrument described here 50-100 mg crude polypeptide can be processed daily.
Thus the **isoelectric focusing** technique carried out in solution is a valid and inexpensive alternative to ion exchange chromatography. (C) Munksgaard 1997.

L7 ANSWER 7 OF 30 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN 97:326332 SCISEARCH
GA The Genuine Article (R) Number: WV162
TI Partial homology of stress glycoprotein GP62 with HSP70
AU Jethmalani S M; Henle K J (Reprint)
CS JOHN L MCCLELLAN MEM VET ADM MED CTR, MED RES SERV, SLOT 704-151, 4300 WEST 7TH ST, LITTLE ROCK, AR 72205 (Reprint); UNIV ARKANSAS MED SCI HOSP, DEPT MED, LITTLE ROCK, AR 72205
CYA USA
SO EXPERIMENTAL CELL RESEARCH, (**10 APR 1997**) Vol. 232, No. 1, pp. 8-16.
Publisher: ACADEMIC PRESS INC JNL-COMP SUBSCRIPTIONS, 525 B ST, STE 1900, SAN DIEGO, CA 92101-4495.
ISSN: 0014-4827.
DT Article; Journal
FS LIFE
LA English
REC Reference Count: 44
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Thermotolerance and heat resistance are often associated with elevated levels of heat shock proteins (HSPs) and a selective increase in protein glycosylation, In the present study, we have characterized heat stress-induced protein glycosylation in M21 cells, derived from the rat fibroblast line, Rat-1. M21 cells are characterized by constitutive overexpression of human HSP70 gene and show increased heat resistance without loss of its normal capacity for thermotolerance development after heat conditioning (Li et al., 1991, Proc. Natl. Acad. Sci. USA 88, 1681-1685). The data presented here show that the elevated heat resistance in these cells is associated not only with the constitutive overexpression of human HSP70, but also with increased glycosylation of a major stress glycoprotein, GP62 (M-r of 62,000). We further **purified** GP62 by sequential **preparative isoelectric focusing** and two dimensional **isoelectric focusing** /SDS-polyacrylamide gel electrophoresis. The **purified** protein was digested and partially characterized by microsequencing of two peptide fragments, comprising of 14-15 amino acids each. These fragments had a 100% sequence homology with HSP70 and a 71-100% sequence homology with

HSC70 from various species. Western blotting using both HSP70 and HSC70 antibodies showed positive reactivity of GP62 with HSP70. Affinity characterizations showed strong binding of GP62 to wheat germ agglutinin and concanavalin A, consistent with the presence of both alpha-D-mannosyl/glucosyl and N-acetyl-beta-D-glucosylaminyl/glucosamine oligomer residues in GP62. These data confirm the glycosylated status of GP62 and indicate that GP62 is a heat stress-induced glycoprotein with partial homology to HSP70. (C) 1997 Academic Press.

L7 ANSWER 8 OF 30 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN 97:109064 SCISEARCH
GA The Genuine Article (R) Number: WE619
TI **Isoelectric focusing** of crystallins in microsections of calf and adult bovine lens - Identification of water-insoluble crystallins complexing under nondenaturing conditions: Demonstration of **chaperone** activity of alpha-crystallin
AU Babizhayev M A; Bours J (Reprint); Utikal K J
CS UNIV BONN, INST EXPT OPHTHALMOL, SIGMUND FREUD STR 25, D-53105 BONN, GERMANY (Reprint); UNIV BONN, INST EXPT OPHTHALMOL, D-53105 BONN, GERMANY; MOSCOW HELMHOLTZ RES, INST EYE DIS, MOSCOW, RUSSIA; UNIV BONN, INST SOCIAL & ECONOM SCI, DEPT ECONOM THEORY 2, D-53105 BONN, GERMANY
CYA GERMANY; RUSSIA
SO OPHTHALMIC RESEARCH, (**NOV-DEC 1996**) Vol. 28, No. 6, pp. 365-374. Publisher: KARGER, ALLSCHWILERSTRASSE 10, CH-4009 BASEL, SWITZERLAND. ISSN: 0030-3747.
DT Article; Journal
FS LIFE
LA English
REC Reference Count: 30
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB Topographic studies of crystallin fractions from the young adult bovine lens revealed that lenses do not have a homogeneous distribution of crystallins. There are, however, gradual differences between the cortices and the nucleus. The **isolated** lenses were separated mechanically into lens equator and inner cylinder. The latter was then sectioned in a special sectioning machine into 11-12 morphological layers (from anterior cortex through nucleus to posterior cortex). Matters of the lens sections were separated into water-soluble (WS) and water-insoluble (WI) crystallins. The WI fractions were solubilized with 100% formamide, or dissolved into 7 M urea. Crystallin profiles were obtained for each lens layer, using thin-layer **isoelectric focusing** in polyacrylamide gel. WS crystallins from the lens equator revealed a separation into HM-, alpha(L)-, beta(H)-, beta(L)-, beta(S)- and gamma-crystallins. The WI fractions of the layers dissolved in urea gave a separation into the individual HM- (3 components), alpha(L)- (4 components), beta- (6 component groups), beta(S)- (2 components) and gamma- (11 components) crystallins in the different morphological layers. The results confirm that a significant age-related increase in several beta- and gamma-crystallins incorporated into alpha-crystallins exists in the patterns of WI fractions of the different layers from lenses of 2.2 and 5.9 years. The WI crystallins solubilized in formamide showed only the presence of HM weight and alpha-crystallin moieties, due to the action of **chaperone** activity of alpha-crystallin. The nature of the WI protein fraction in the separated lens layers reflected to the aggregated state of: alpha(L)-, beta(L)-, beta(S)- and gamma-crystallins in the different regions of the lens, concealed in the central cavity of the alpha-crystallin **chaperone** model.

L7 ANSWER 9 OF 30 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN 95:343347 SCISEARCH
GA The Genuine Article (R) Number: QX649
TI THE ESCHERICHIA-COLI K88 PERIPLASMIC **CHAPERONE** FAEE FORMS A HETEROTRIMERIC COMPLEX WITH THE MINOR FIMBRIAL COMPONENT FAEH AND WITH THE MINOR FIMBRIAL COMPONENT FAEI
AU MOL O (Reprint); OUD R P C; DEGRAAF F K; OUDEGA B

CS VRIJE UNIV AMSTERDAM, FAC BIOL, BIOCENTRUM AMSTERDAM, INST MOLEC BIOL SCI, DEPT MOLEC MICROBIOL, 1081 HV AMSTERDAM, NETHERLANDS (Reprint)
CYA NETHERLANDS
SO MICROBIAL PATHOGENESIS, (**FEB 1995**) Vol. 18, No. 2, pp. 115-128.
ISSN: 0882-4010.
DT Article; Journal
FS LIFE
LA ENGLISH
REC Reference Count: 28
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB K88ab fimbriae are long polymeric protein structures mainly composed of FaeG proteins. The Escherichia coli K88 periplasmic **chaperone** FaeE is a homodimer and forms a heterotrimeric complex with the K88 major fimbrial component FaeG in the periplasm.(1) In this study the direct interaction of FaeE and the minor K88 fimbrial subunits FaeH and FaeI were investigated. The faeH gene and the fael gene were subcloned in a pINIIIA1-derivative vector containing the faeE gene. SDS-PAGE using normal and gradient gels and immunoblotting revealed that the subcloned genes were expressed in the periplasm. Analyses of periplasmic fractions by native gel electrophoresis and **isoelectric focusing** (**IEF**) showed that FaeE and FaeH, as well as FaeE and FaeI formed protein complexes. These complexes were **isolated** and **purified** by FPLC or **IEF** and native gel electrophoresis. The stoichiometry of the proteins in these complexes was studied by automated Edman degradation and gel image analysis. The results showed that FaeE and FaeH, and FaeE and FaeI formed heterotrimeric E(2)H and E(2)I complexes, respectively. In addition to the E(2)H complex, cells expressing FaeE and FaeH accumulated unbound FaeH in their periplasm. In contrast to the E(2)G complex, the **purified** E(2)H complex was not stable and was partly dissociated in the experimental conditions used, suggesting that the interaction between FaeE and FaeH is not as strong as the interaction of FaeE and FaeG.

L7 ANSWER 10 OF 30 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN 95:104802 SCISEARCH
GA The Genuine Article (R) Number: QD656
TI ANTIBODY CHARACTERIZATION OF 2 DISTINCT CONFORMATIONS OF THE **CHAPERONIN**-CONTAINING TCP-1 FROM MOUSE TESTIS
AU HYNES G; KUBOTA H; WILLISON K R (Reprint)
CS INST CANC RES, CHESTER BEATTY LABS, CRC, CTR CELL & MOLEC BIOL, 237 FULHAM RD, LONDON SW3 6JB, ENGLAND (Reprint); INST CANC RES, CHESTER BEATTY LABS, CRC, CTR CELL & MOLEC BIOL, LONDON SW3 6JB, ENGLAND
CYA ENGLAND
SO FEBS LETTERS, (**23 JAN 1995**) Vol. 358, No. 2, pp. 129-132.
ISSN: 0014-5793.
DT Article; Journal
FS LIFE
LA ENGLISH
REC Reference Count: 18
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS
AB We describe a panel of antibodies specific to individual subunits of the **chaperonin**-containing TCP-1 (CCT) and one antibody that reacts with all the subunits of CCT. Immunoblot analysis of CCT **purified** from mouse testis suggests that the testis-specific subunit, S6, may be related to CCT zeta and that a co-**purifying** 63 kDa protein may be a novel subunit of CCT. Using these antibodies in the analysis of CCT subjected to nondenaturing **IEF** we observed the resolution of two distinct conformations of CCT, which differ in their susceptibility to proteolysis and in the number of associated polypeptides.

L7 ANSWER 11 OF 30 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
AN 94:92856 SCISEARCH
GA The Genuine Article (R) Number: MR427
TI ESCHERICHIA-COLI PERIPLASMIC **CHAPERONE** FAEE IS A HOMODIMER AND

THE **CHAPERONE**-K88 SUBUNIT COMPLEX IS A HETEROTRIMER

AU MOL O; VISSCHERS R W; DEGRAAF F K; OUDEGA B (Reprint)

CS VRIJE UNIV, FAC BIOL, DEPT MOLEC MICROBIOL, BOELELAAN 1087, 1081 HV AMSTERDAM, NETHERLANDS (Reprint); VRIJE UNIV, FAC BIOL, DEPT MOLEC MICROBIOL, 1081 HV AMSTERDAM, NETHERLANDS; VRIJE UNIV, FAC BIOL, DEPT PHYSIOL, 1081 HV AMSTERDAM, NETHERLANDS; VRIJE UNIV, FAC BIOL, DEPT BIOCHEM PLANTS, 1081 HV AMSTERDAM, NETHERLANDS

CYA NETHERLANDS

SO MOLECULAR MICROBIOLOGY, (**JAN 1994**) Vol. 11, No. 2, pp. 391-402.
ISSN: 0950-382X.

DT Article; Journal

FS LIFE

LA ENGLISH

REC Reference Count: 31

ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB The interaction of FaeE, a periplasmic **chaperone** involved in K88 biosynthesis, and the major fimbrial subunit FaeG was investigated. The genes encoding the two proteins were subcloned together in the expression vector pINIIIA1. Cells expressing the subcloned genes accumulated in their periplasm a complex of FaeE and FaeG. This complex was **purified** by **isoelectric focusing** and anion-exchange fast-protein liquid chromatography. SDS-PAGE, native gel electrophoresis, immunoblotting and determination of the N-terminal amino acid sequences and the molar ratio of the N-terminal amino acid residues revealed that the complex is a heterotrimer consisting of two molecules of FaeE and one molecule of FaeG. The periplasmic **chaperone** FaeE was **purified** from the periplasm of cells expressing only the subcloned faeE gene. Gel filtration, protein cross-linking analysis and a biophysical approach in which the rotation diffusion coefficient of the **purified** FaeE was determined ted to the conclusion that the native FaeE **chaperone** is a homodimer.

L7 ANSWER 12 OF 30 Elsevier BIOBASE COPYRIGHT 2004 Elsevier Science B.V. on STN

AN 2000279597 ESBIOBASE

TI Proteome analysis of activated murine B-lymphocytes

AU Frey J.R.; Fountoulakis M.; Lefkovits I.

CS Dr. J.R. Frey, Basel Institute for Immunology, Grenzacherstrasse 487, CH-4005 Basel, Switzerland.
E-mail: frey@bii.ch

SO Electrophoresis, (**2000**), 21/17 (3730-3739), 45 reference(s)
CODEN: ELCTDN ISSN: 0173-0835

DT Journal; Article

CY Germany, Federal Republic of

LA English

SL English

AB Proteins extracted from murine B-lymphocytes after in vitro stimulation by lipopolysaccharide were separated by two-dimensional (2-D) polyacrylamide gel electrophoresis and analyzed by matrix assisted laser desorption/ionization mass spectrometry. Structural information on the protein entities from 153 spots was obtained. Since many of these spots occur as members of spot families, a smaller number - 98 genes - was found to be coding for the identified spots. The elucidated proteins belong to groups of functional categories; we found 26 enzymes, 36 regulatory proteins, 15 **chaperones**, 15 structural proteins, 4 immunoglobulins, 1 ribosomal and 1 histone protein. A comparison between expected and observed molecular masses yields a good correlation for the majority of the compared spot entities. This set of proteins now identified in the context of a lymphocyte 2-D gel pattern should advance further studies on lymphocyte functions.

L7 ANSWER 13 OF 30 Elsevier BIOBASE COPYRIGHT 2004 Elsevier Science B.V. on STN

AN 2000091837 ESBIOBASE

TI Native quaternary structure of bovine .alpha.-crystallin

AU Vanhoudt J.; Abgar S.; Aerts T.; Clauwaert J.
CS J. Clauwaert, Biophysics Research Group, Department of Biochemistry, University of Antwerp, Universiteitsplein 1, B-2610 Antwerp, Belgium.
SO Biochemistry, **(18 APR 2000)**, 39/15 (4483-4492), 38 reference(s)
CODEN: BICHAW ISSN: 0006-2960
DT Journal; Article
CY United States
LA English
SL English
AB .alpha.-Crystallin is the most important soluble protein in the eye lens. It is responsible for creating a high refractive index and is known to be a small heat-shock protein. We have used static and dynamic light scattering to study its quaternary structure as a function of **isolation** conditions, temperature, time, and concentration. We have used tryptophan fluorescence to study the temperature dependence of the tertiary structure and its reversibility. Gel filtration, analytical ultracentrifugation, polyacrylamide gel electrophoretic analysis, and absorption measurements were used to study the **chaperonelike** activity of .alpha.-crystallin in the presence of destabilized lysozyme. We have demonstrated that the molecular mass of the in vivo .alpha.-crystallin oligomer is about 700 kDa (.alpha.(native)) while the 550 kDa molecule (.alpha.(37 .degree.C, diluted), which is often found in vitro, is a product of prolonged storage at 37 .degree.C of low concentrated .alpha.-crystallin solutions. We have proven that the molecular mass of the .alpha.-crystallin oligomer is concentration dependent at 37 .degree.C. We have found strong indications that, during **chaperoning**, the .alpha.-crystallin oligomer undergoes a drastic rearrangement of its peptides during the process of complex formation with destabilized lysozyme. We propose the hypothesis that all these processes are governed by the phenomenon of subunit exchange, which is well-known to be strongly temperature-dependent.

L7 ANSWER 14 OF 30 Elsevier BIOBASE COPYRIGHT 2004 Elsevier Science B.V. on STN
AN 1999077527 ESBIOBASE
TI .alpha.b-Crystallin selectively targets intermediate filament proteins during thermal stress
AU Muchowski P.J.; Valdez M.M.; Clark J.I.
CS J.I. Clark, Box 357420, Department of Biological Structure, University of Washington, Seattle, WA 98195-7420, United States.
SO Investigative Ophthalmology and Visual Science, (**1999**), 40/5 (951-958), 53 reference(s)
CODEN: IOVSDA ISSN: 0146-0404
DT Journal; Article
CY United States
LA English
SL English
AB PURPOSE. .alpha.B-Crystallin is a small heat shock protein (sHsp) expressed at high levels in the lens of the eye, where its molecular **chaperone** functions may protect against cataract formation in vivo. The purpose of this study was to identify protein targets for the sHsp .alpha.B-crystallin in lens cell homogenates during conditions of mild thermal stress. METHODS. The authors report the use of a fusion protein, maltose-binding protein .alpha.B- crystallin (MBP-.alpha.B), immobilized on amylose resin as a novel method for **isolating** endogenous .alpha.B-crystallin-binding proteins from lens cell homogenates after mild thermal stress. RESULTS. Sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE) and western immunoblot analyses showed selective interactions in lens cell homogenates between MBP-.alpha.B and endogenous .alpha.A- and .alpha.B-crystallins, the lens-specific intermediate filament proteins phakinin (CP49) and filensin (CP115), and vimentin during a mild 20- minute heat shock at 45.degree.C. No interactions were observed with the .beta.- or .gamma.- crystallins, or the cytoskeletal proteins actin, .alpha.-tubulin, and spectrin, although these proteins were present in lens cell homogenates. In

contrast, .gamma.-crystallin and actin interacted with MBP-.alpha.B at 45.degree.C only in their **purified** states. The results obtained with MBP-.alpha.B were confirmed by immunoprecipitation reactions in which immunoprecipitation of native bovine .alpha.B-crystallin from heat-shocked lens cell homogenates resulted in the coprecipitation of phakinin and filensin. CONCLUSIONS. In the lens the sHsp .alpha.B-crystallin may selectively target intermediate filaments for protection against unfolding during conditions of stress.

L7 ANSWER 15 OF 30 Elsevier BIOBASE COPYRIGHT 2004 Elsevier Science B.V. on STN
AN 1999075173 ESBIOBASE
TI GroES in the asymmetric GroEL.sub.1.sub.4-GroES.sub.7 complex exchanges via an associative mechanism
AU Horowitz P.M.; Lorimer G.H.; Ybarra J.
CS P.M. Horowitz, Department of Biochemistry, Univ. of Texas Health Science Center, 7703 Floyd Curl Drive, San Antonio, TX 78284, United States.
SO Proceedings of the National Academy of Sciences of the United States of America, (**1999**), 96/6 (2682-2686), 30 reference(s)
CODEN: PNASA6 ISSN: 0027-8424
DT Journal; Conference Article
CY United States
LA English
SL English
AB The interaction of the **chaperonin** GroEL.sub.1.sub.4 with its cochaperonin GroES.sub.7 is dynamic, involving stable, asymmetric 1:1 complexes (GroES.sub.7.midldot.GroEL.sub.7-GroEL.sub.7) and transient, metastable symmetric 2:1 complexes GroES.sub.7.midldot.GroEL.sub.7-GroEL.sub.7.midldot.GroES.sub.7 . The transient formation of a 2:1 complex permits exchange of free GroES.sub.7 for GroES.sub.7 bound in the stable 1:1 complex. Electrophoresis in the presence of ADP was used to resolve free GroEL.sub.1.sub.4 from the GroES.sub.7-GroEL.sub.1.sub.4 complex. Titration of GroEL.sub.1.sub.4 with radiolabeled GroES.sub.7 to molar ratios of 32:1 demonstrated a 1:1 limiting stoichiometry in a stable complex. No stable 2:1 complex was detected. Preincubation of the asymmetric GroES.sub.7.midldot.GroEL.sub.7-GroEL.sub.7 complex with excess unlabeled GroES.sub.7 in the presence of ADP demonstrated GroES.sub.7 exchange. The rates of GroES.sub.7 exchange were proportional to the concentration of unlabeled free GroES.sub.7. This concentration dependence points to an associative mechanism in which exchange of GroES.sub.7 occurs by way of a transient 2:1 complex and excludes a dissociative mechanism in which exchange occurs by way of free GroEL.sub.1.sub.4. Exchange of radiolabeled ADP from 1:1 complexes was much slower than the exchange of GroES.sub.7. In agreement with recent structural studies, this indicates that conformational changes in GroEL.sub.1.sub.4 following the dissociation of GroES.sub.7 must precede ADP release. These results explain how the GroEL.sub.1.sub.4 cavity can become reversibly accessible to proteins under in vivo conditions that favor 2:1 complexes.

L7 ANSWER 16 OF 30 Elsevier BIOBASE COPYRIGHT 2004 Elsevier Science B.V. on STN
AN 1998257987 ESBIOBASE
TI Detection and identification of proteins related to the hereditary dwarfism of the rdw rat
AU Oh-Ishi M.; Omori A.; Kwon J.-Y.; Agui T.; Maeda T.; Furudate S.-I.
CS Dr. M. Oh-Ishi, Kitasato Univ. School of Science, 1-15-1 Kitasato, Sagamihara-shi 228, Japan.
SO Endocrinology, (**1998**), 139/3 (1288-1299), 49 reference(s)
CODEN: ENDOAO ISSN: 0013-7227
DT Journal; Article
CY United States
LA English
SL English
AB Proteins having relations to hereditary dwarfism of the rdw rat (gene

symbol: rdw) were searched for in various tissues of the rat with an improved two-dimensional gel electrophoresis technique followed by immunoblotting and microsequencing. Tissues inspected were cerebral cortex, cerebellum, brain trunk, hypothalamus, pituitary, thyroid gland, liver, testis, spleen, and thymus. Only pituitary and thyroid glands among those tissues showed abnormalities in protein contents. GH and PRL contents in the rdw pituitary were much less than in the normal one, which in the former were 1/15 and less than 1/30 times as much as in the latter, respectively, but the abnormalities in the rdw thyroid were far more serious than in the pituitary. At least 18 protein levels in the rdw thyroid were above, and 17 were below the normal. Those identified among the increased proteins were endoplasmin (GRP94), immunoglobulin heavy chain binding protein (BiP/GRP78), and heat shock protein 70 (hsp70), the contents of which respectively were 40 times, 10 times and more than 50 times as much in the rdw thyroid as in the normal tissue. Because BiP and endoplasmin are known to be ER resident proteins, and because all three belong to a **chaperone** protein family, accumulation of these proteins in the rdw thyroid suggests that protein folding and secreting disorders underlie the hypothyroidism of the rdw rat.

L7 ANSWER 17 OF 30 Elsevier BIOBASE COPYRIGHT 2004 Elsevier Science B.V. on STN
AN 1997139297 ESBIOBASE
TI A lymphocyte cell surface heat shock protein homologgous to the endoplasmic reticulum chaprone, immunoglobulin heavy chain binding protein BIP
AU Berger C.L.; Dong Z.; Hanlon D.; Bisaccia E.; Edelson R.L.
CS C.L. Berger, Department of Dermatology, Yale University, 333 Cedar Street, New Haven, CT 06510-8059, United States.
E-mail: bergercl@maspo1.mas.yale.edu
SO International Journal of Cancer, (**1997**), 71/6 (1077-1085), 22 reference(s)
CODEN: IJCNAW ISSN: 0020-7136
DT Journal; Article
CY United States
LA English
SL English
AB BE2 is a cell surface monomeric 78-kDa protein (BE2-78) expressed on the malignant lymphocytes of cutaneous T-cell lymphoma and adult T-cell leukemia, on some lymphocytes from patients with acquired immunodeficiency syndrome and on Epstein-Barr virus-transformed B cells, BE2-78 positivity of cutaneous T-cell lymphoma tumor cells is a useful diagnostic and prognostic determinant in evaluating patients with that disorder. The BE2-78 protein was **isolated** from Epstein Barr virus-transformed B cells, **purified** by 1- and 2-dimensional electrophoresis and then sequenced. The sequence of 4 **isolated** peptide fragments was highly homologous with the 78-kDa heat shock protein, BiP, an endoplasmic reticulum **chaperone**. The similarity between BiP and BE2-78 was supported by the demonstration that BE2-78, like BiP, avidly binds to ATP. However, polyclonal and monoclonal reagents that recognize cytoplasmic 70- and 78-kDa heat shock proteins do not detect the BE2-78 antigen on the cell surface of cutaneous T-cell lymphoma or Epstein Barr virustransformed lymphocytes, and peptide mapping demonstrates sequence divergence, suggesting that either they are distinct or conformationally different molecules. Our results indicate that BE2-78 is a cell surface heat shock protein. The possibility that malignant or transformed lymphocytes may express cell surface molecules with the capacity to bind a spectrum of exogenous or endogenous peptides has potential implications for tumor immunology.

L7 ANSWER 18 OF 30 Elsevier BIOBASE COPYRIGHT 2004 Elsevier Science B.V. on STN
AN 1997073732 ESBIOBASE
TI Role of Escherichia coli histone-like nucleoid-structuring protein in bacterial metabolism and stress response - Identification of targets by

two-dimensional electrophoresis
AU Laurent-Winter C.; Ngo S.; Danchin A.; Bertin P.
CS P. Bertin, Regulation de l'Expression Genetique, Institut Pasteur, 28 rue du Dr Roux, F-75724 Paris Cedex 15, France.
SO European Journal of Biochemistry, (**1997**), 244/3 (767-773), 55 reference(s)
CODEN: EJBCAI ISSN: 0014-2956
DT Journal; Article
CY Germany, Federal Republic of
LA English
SL English
AB The histone-like nucleoid-structuring protein, H-NS, is a major bacterial chromatin component which influences DNA structure and gene expression. Mutations in hns, the structural gene of H-NS protein, have been shown to result in highly pleiotropic effects in Escherichia coli cells. In this study, we have initiated an index of the proteins whose synthesis is directly or indirectly regulated by H-NS. Using two-dimensional gel electrophoresis, we have examined the global changes in gene expression which occurred in an hns background compared with its wild-type parent. In addition, we analysed the effects of mutations in two other genes i.e. lrp and pta, which are also involved in global regulatory pathways. Although these comparative analyses revealed several common differences, thus suggesting possible interactions between these regulatory mechanisms, i.e. H-NS, Lrp (leucine-responsive regulatory protein) and acetylphosphate, the most extensive modifications occurred in an hns mutant. Among the polypeptides whose level of synthesis was specifically altered in an hns mutant, several corresponded to H-NS targets previously identified by classical selection methods. Moreover, the present study allows us to characterize several H-NS targets, which were identified either by comparison with the E. coli two-dimensional reference maps or by microsequencing procedure. Many of these newly identified polypeptides are involved in adaptation of E. coli cells to environmental challenges, and one of them could be involved in bacterial virulence. Finally, synthesis of several proteins belonging to the heat-shock regulon, more particularly molecular **chaperones**, was induced in an hns mutant.

L7 ANSWER 19 OF 30 Elsevier BIOBASE COPYRIGHT 2004 Elsevier Science B.V. on STN
AN 1995007167 ESBIOBASE
TI A rapid, single-step **purification** method for immunogenic members of the hsp 70 family: Validation and application
AU Nandan D.; Daubenberger C.; Mpimbaza G.; Pearson T.W.
CS D. Nandan, Internat. Lab. Research Animal Dis., PO Box 30709, Nairobi, Kenya.
SO Journal of Immunological Methods, (**1994**), 176/2 (255-263)
CODEN: JIMMBG ISSN: 0022-1759
DT Journal; Article
CY Netherlands
LA English
SL English
AB Gelatin affinity chromatography has been developed as a simple one-step procedure for **purification** of members of the hsp 70 kDa family from MDBK cells (a bovine epithelioid cell line), rat liver microsomes and three different protozoan parasites. The ability of the **isolated** proteins to bind to denatured proteins like gelatin together with their apparent molecular masses, constitutive and inducible expression and their release from gelatin-agarose beads by ATP suggested that these proteins are molecular **chaperones**. The identity of a gelatin bound, ATP released, 78 kDa protein **isolated** from rat liver was confirmed by comparison of its NH.sub.2-terminal sequence with that of grp 78/BiP from rat. A 68 kDa protein **isolated** from Trypanosoma brucei brucei (T.b. brucei) and proteins of 68 and 69 kDa from Leishmania donovani (L. donovani) using gelatin affinity chromatography reacted in Western blot analysis with a monoclonal

antibody, 7.10, specific for members of the 70 kDa heat shock protein family derived from a wide variety of species. A different monoclonal antibody, SPA-820, which also recognises members of the hsp 70 kDa family, bound to proteins **isolated** from Theileria parva Muguga transformed lymphoblastoid cell lines (TpM). The gelatin bound ATP released proteins of 72 kDa from T.b. brucei and of 65, 69 and 72 kDa from TpM were detected by recovery sera of the cattle infected with T.b. brucei and T. parva, respectively.

L7 ANSWER 20 OF 30 Elsevier BIOBASE COPYRIGHT 2004 Elsevier Science B.V. on STN
AN 1994164044 ESBIOBASE
TI A 14 kDa release factor is involved in GTP-dependent .beta.-tubulin folding
AU Campo R.; Fontalba A.; Sanchez L.M.; Zabala J.C.
CS J.C. Zabala, Departamento Biologia Molecular, Facultad de Medicina, Universidad Cantabria, Santander, Spain.
SO FEBS Letters, (**1994**), 353/2 (162-166)
CODEN: FEBLAL ISSN: 0014-5793
DT Journal; Article
CY Netherlands
LA English
SL English
AB The tubulin folding pathway is a model system to understand protein folding in the cell. It involves the interaction of several **chaperones**, including TCP-1 and other as yet uncharacterized factors. Release of tubulin monomers from folding intermediates (C.sub.9.sub.0.sub.0 and C.sub.3.sub.0.sub.0) and their incorporation into tubulin dimers is dependent on GTP hydrolysis, magnesium ions and release factors. In this work, we have **purified** to homogeneity the protein factor responsible for the release of .beta.-tubulin monomers from C.sub.3.sub.0.sub.0 complexes. It has an apparent molecular mass of 14 kDa (p14) as judged by SDS electrophoresis. The protein behaved as a dimer of about 28 kDa when analyzed by gel filtration chromatography. Furthermore the p14-dependent release of .beta.-tubulin monomers from C.sub.3.sub.0.sub.0 complexes takes place in the presence of GTP. These results suggest that p14 is a new **chaperone** that assists in tubulin folding by facilitating the acquisition of the native conformation.

L7 ANSWER 21 OF 30 Elsevier BIOBASE COPYRIGHT 2004 Elsevier Science B.V. on STN
AN 1994151467 ESBIOBASE
TI Identification of tryptophan and tyrosine residues in peptides separated by capillary electrophoresis by their second-derivative spectra using diode-array detection
AU Grimm R.; Graf A.; Heiger D.N.
CS R. Grimm, Hewlett-Packard, Hewlett-Packard-Strasse, 76337 Waldbronn, Germany.
SO Journal of Chromatography A, (**1994**), 679/1 (173-180)
CODEN: JCRAEY ISSN: 0021-9673
DT Journal; Article
CY Netherlands
LA English
SL English
AB The use of diode-array detection allows the non-destructive identification of tryptophan and tyrosine residues in complex peptide mixtures separated by capillary electrophoresis. Second-order derivative spectra of both amino acids show significant differences while zero-order spectra are overlapping to a great extent. A mixture of peptides containing tryptophan and/or tyrosine residues was used to evaluate this method. Tryptic peptide maps of carbonic anhydrase and of the bacterial **chaperonin** protein GroEL, and of an autodigest of trypsin were characterized for tryptophan- and tyrosine-containing peptides. Automated spectra library search was performed successfully.

L7 ANSWER 22 OF 30 MEDLINE on STN
AN 1998296109 MEDLINE
DN 98296109 PubMed ID: 9630589
TI Mycobacterial Cpn10 promotes recognition of the mammalian homologue by a mycobacterium-specific antiserum.
AU Minto M; Galli G; Gianazza E; Eberini I; Legname G; Fossati G; Modena D; Marcucci F; Mascagni P; Ghezzi P; Fratelli M
CS Istituto di Ricerche Farmacologiche 'Mario Negri', Via Eritrea 62, I-20157 Milan, Italy.
SO BIOCHIMICA ET BIOPHYSICA ACTA, **(1998 Jun 22)** 1403 (2) 151-7.
Journal code: 0217513. ISSN: 0006-3002.
CY Netherlands
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199807
ED Entered STN: 19980817
Last Updated on STN: 19980817
Entered Medline: 19980731
AB Self-tolerance, a key feature of the immune system, is still a matter of intense debate. We give here evidence for a peculiar behavior of an antiserum against Mycobacterium tuberculosis **chaperonin** 10 (m-Cpn10), which could have implications for the mechanism of self-recognition by antibodies against non-self. We show that this antiserum can interact in terms of both inhibition of biological activity and physical association (immunoprecipitation), with the mammalian homologue of m-Cpn10, but only if the bacterial protein is present. Several lines of evidence led us to exclude that the two proteins physically associate to form heterocomplexes: (1) the behavior of the antiserum was not shared by a monoclonal antibody against m-Cpn10; (2) a matrix selective for human Cpn10 (h-Cpn10) did not co-**purify** m-Cpn10; (3) the distribution pattern in non-denaturing **isoelectric focusing** of labeled m-Cpn10 was not altered by the presence of the unlabeled h-Cpn10. We conclude therefore that the antiserum against M. tuberculosis Cpn10 also recognizes mammalian Cpn10, with an affinity/avidity regulated by the mycobacterial protein, or by the promotion of hetero-oligomerization. This emergence of self-recognition in the presence of M. tuberculosis Cpn10 could imply a breaking of self-tolerance in situations of infection or vaccination.

L7 ANSWER 23 OF 30 MEDLINE on STN
AN 1998005225 MEDLINE
DN 98005225 PubMed ID: 9346868
TI Chemical synthesis and characterisation of rat **chaperonin** 10: effect of chain length, ions, heat and N-terminal acetylation on unchaperoned folding into its heptameric form.
AU Ball H L; Giuliani P; Lucietto P; Fossati G; Mascagni P
CS Italfarmaco Research Centre, Milan, Italy.
SO BIOMEDICAL PEPTIDES, PROTEINS AND NUCLEIC ACIDS, **(1994-95)** 1 (1) 39-44.
Journal code: 9506699. ISSN: 1353-8616.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199711
ED Entered STN: 19971224
Last Updated on STN: 19971224
Entered Medline: 19971121
AB Recently, the sequence of mitochondrial **chaperonin** 10 from Rattus norvegicus (rat cpn10), with N-terminal acetylation, has been published. Two syntheses of rat cpn10 were performed, the first using a classical carbodiimide-mediated double coupling protocol (Method A) and the second a more efficient HBTU/HOBT/single coupling procedure (Method

B). The latter also involved the application of a capping procedure, using N-(2-chlorobenzyloxycarbonyloxy)succinimide [Z(2-Cl)-OSu]. The crude protein from Method A was **purified** using a two-step **isoelectric focusing**/RP-HPLC scheme and found to contain a high proportion of a deletion peptide (less Gln60). Conversely, rat cpn10 from Method B was **purified** to homogeneity by one-step RP-HPLC, using a reversible lipophilic chromatographic probe. The proportion of biologically active heptameric structure was directly related to the purity of the protein and attained 84% with material from Method B. The addition of Ca/Mg ions, pH 7.2, or a heating/cooling cycle increased the proportion of heptamer for less pure protein. Shorter sequences were found not to fold into heptamers, suggesting that aggregation/folding motifs are located in 1-25 and 77-101 regions of rat cpn10. The heptameric cpn10 (Method B) bound correctly to GroEL from E. coli, demonstrating that N-terminal acetylation is not necessary for its folding and binding to bacterial cpn60.

L7 ANSWER 24 OF 30 MEDLINE on STN
AN 96005821 MEDLINE
DN 96005821 PubMed ID: 7556464
TI Phosphorylation of alpha-crystallin in rat lenses is stimulated by H2O2 but phosphorylation has no effect on **chaperone** activity.
AU Wang K; Ma W; Spector A
CS Department of Ophthalmology, College of Physicians and Surgeons of Columbia University, New York, NY 10032, USA.
SO EXPERIMENTAL EYE RESEARCH, **(1995 Jul)** 61 (1) 115-24.
Journal code: 0370707. ISSN: 0014-4835.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199511
ED Entered STN: 19951227
Last Updated on STN: 19951227
Entered Medline: 19951106
AB Alpha crystallin (alpha), a phosphorylated structural protein of the lens, has been shown to be a **chaperone** preventing other lens proteins from aggregating. It is now demonstrated that with oxidative stress imposed on cultured rat lenses, the incorporation of labeled phosphate into the alpha polypeptide chains increased by two to four times over a 90-min period in comparison to control experiments. The phosphorylation rate of the B chain, alpha B, was twice that of the A chain, alpha A. However, phosphorylation of the alpha chains has an insignificant effect on the **chaperone** activity of alpha or the individual alpha A and alpha B chains as measured by suppressing the thermally induced aggregation of beta low or gamma crystallins. It was also found that the alpha A aggregates are more effective **chaperones** than the alpha B aggregates. The size of the macromolecules resulting from reaggregation of the **isolated** non-phosphorylated or phosphorylated alpha B chains are not markedly effected by phosphorylation. However, phosphorylation of the alpha A chain leads to a heterogeneous population with two major species, one similar in size to alpha A and another approximately twice as large. It is concluded that the phosphorylation of alpha is associated with some other function of the protein than that of **chaperone** activity and that this function may be linked to a protective response to oxidative stress.

L7 ANSWER 25 OF 30 MEDLINE on STN
AN 94115187 MEDLINE
DN 94115187 PubMed ID: 7904492
TI A simple and rapid method for the **purification** of GroEL, an Escherichia coli homolog of the heat shock protein 60 family of molecular **chaperonins**.
AU Khandekar S S; Bettencourt B M; Kelley K C; Recny M A
CS Procept, Inc., Cambridge, Massachusetts 02139.

SO PROTEIN EXPRESSION AND PURIFICATION, **(1993 Dec)** 4 (6) 580-4.
Journal code: 9101496. ISSN: 1046-5928.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199402
ED Entered STN: 19940312
Last Updated on STN: 19950206
Entered Medline: 19940223
AB GroEL, an Escherichia coli homolog of the heat shock protein 60 family of molecular **chaperonins**, has been implicated as a target of T cell-mediated immune responses in a broad spectrum of infections. In order to produce large quantities of native protein for raising and stimulating GroEL specific T cell lines, we have developed a simple and rapid two-step protocol for **purifying** native E. coli GroEL heat shock (or stress) protein which takes advantage of the inherent structural and functional properties of the protein. Based on a combination of gel exclusion chromatography, ATPase activity assay, **isoelectric focusing**, and circular dichroism analyses we conclude that our **purification** process yields native tetradecameric GroEL.

L7 ANSWER 26 OF 30 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
AN 1999:496986 BIOSIS
DN PREV199900496986
TI Structure of Tetrahymena CCTtheta gene and its expression under colchicine treatment.
AU Domingues, Celia; Soares, Helena; Rodrigues-Pousada, Claudina; Cyrne, Luisa [Reprint author]
CS Instituto Gulbenkian de Ciencia, P-2781, Oeiras, Portugal
SO Biochimica et Biophysica Acta, (Sept. 3, 1999) Vol. 1446, No. 3, pp. 443-449. print.
CODEN: BBACAQ. ISSN: 0006-3002.
DT Article
LA English
ED Entered STN: 23 Nov 1999
Last Updated on STN: 23 Nov 1999
AB We report here the cloning and the characterization of the Tetrahymena pyriformis **chaperonin**-containing-TCP1 theta gene (TpCCTtheta), an orthologue of the mouse **chaperonin** gene CCTtheta. TpCCTtheta gene is interrupted by eight introns, ranging in size between 91 and 419 nucleotides, and encodes a protein consisting of 540 amino acid residues (59.1 kDa), with a putative pI of 5.73. The amino acid sequence of TpCCTtheta reveals 39.4-46.0% identity with the sequences of Candida albicans and mouse CCTtheta subunits and 28.0-32.6% identity with the other TpCCT subunit sknown so far. We have studied the expression of this gene in exponentially growing Tetrahymena cells and in cells treated with colchicine for different times. The steady-state levels of CCTtheta mRNA rapidly decrease in the first 30 min of colchicine treatment. Interestingly, treatment for subsequent 60 min gives expression levels higher than those found in exponentially growing cells.

L7 ANSWER 27 OF 30 CAPLUS COPYRIGHT 2004 ACS on STN
AN 1995:470940 CAPLUS
DN 123:170175
TI Chemical synthesis and characterization of rat **chaperonin** 10: effect of chain length, ions, heat and N-terminal acetylation on unchaperoned folding into its heptameric form
AU Ball, Haydn L.; Giuliani, Paola; Lucietto, Pierluigi; Fossati, Gianluca; Mascagni, Paolo
CS Italfarmco Res. Cent., Milan, 20092, Italy
SO Biomedical Peptides, Proteins & Nucleic Acids (**1994**), Volume Date 1995, 1(1), 39-44
CODEN: BPPAFS; ISSN: 1353-8616
PB Mayflower Worldwide

DT Journal
LA English
AB Recently, the sequence of mitochondrial **chaperonin** 10 from Rattus norvegicus (rat cpn 10), with N-terminal acetylation, has been published [D. J. Hartman, et. al; (1992, 1993)]. Two syntheses of rat cpn10 were performed, the first using a classical carbodiimide-mediated double coupling protocol (Method A) and the second a more efficient HBTU/HOBT/single coupling procedure (Method B). The latter also involved the application of a capping procedure, using N-(2-chlorobenzyloxycarbonyloxy)succinimide. The crude protein from Method A was **purified** using a two-step **isoelec**. **focusing**/RP-HPLC scheme and found to contain a high proportion of a deletion peptide (less Gln60). Conversely, rat cpn10 from Method B was **purified** to homogeneity by one-step RP-HPLC, using a reversible lipophilic chromatog. probe. The proportion of biol. active heptameric structure was directly related to the purity of the protein and attained 84% with material from method B. The addn. of Ca/Mg ions, Ph 7.2, or a heating/cooling cycle increased the proportion of heptamer for less pure protein. Shorter sequences were found not to fold into heptamers, suggesting that aggregation/folding motifs are located in 1-25 and 77-101 regions of rat cpn10. The heptameric cpn10 (Method B) bound correctly to GroEL from E. coli, demonstrating that N-terminal acetylation is not necessary for its folding and binding to bacterial cpn60.

L7 ANSWER 28 OF 30 EMBASE COPYRIGHT 2004 ELSEVIER INC. ALL RIGHTS RESERVED. on STN
AN 97280545 EMBASE
DN 1997280545
TI Subunit of glycosylation-inhibiting factor is an abundant protein that binds to certain glycoproteins and sugars.
AU Galat A.; Bouet F.
CS A. Galat, DIEP, Bat. 152, C.E.-Saclay, F-91191 Gif-sur-Yvette Cedex, France
SO Biochemical and Biophysical Research Communications, (1997) 237/1 (46-51). Refs: 23
ISSN: 0006-291X CODEN: BBRCA
CY United States
DT Journal; Article
FS 029 Clinical Biochemistry
LA English
SL English
AB 12 kDa subunit of glycosylation-inhibiting factor (GIF) is an abundant protein that can be **isolated** to homogeneity from different mammalian organs by successive application of the carboxymethylcellulose cation exchanger CM52, **preparative** flat-bed isoelectrofocusing and repeated application of CM52-cellulose. Several isoforms of the 12 kDa GIF subunit exist in mammalian tissues. Conformational stability of two isoforms of a 12 kDa porcine GIF subunit have been studied by CD. Conformation of the protein remains stable within the range 20.degree.to 60.degree.C. Over 60.degree.C the protein undergoes irreversible denaturation. The 12 kDa GIF subunit is not stable within the pH range 2 to 3, adopts quasi-native structure within the pH range 3.5 to 5 while it remains stable between the pHs 6 to 10. The 12 kDa GIF subunit strongly binds to CM52-cellulose from which it can be eluted at concentrations of NaCl higher than 0.6 M. The GIF subunit may also be eluted from the modified cellulose using certain glycoproteins and sugars. High abundance of the 12 kDa GIF subunit in different mammalian tissues and its capacity to bind certain glycoproteins and sugars may suggest that the protein might be involved in regulatory mechanisms of glycoprotein transport (**chaperone** for glycoproteins) and modulation of interactions between secreted glycoproteins and the cell surface receptors.

L7 ANSWER 29 OF 30 BIOTECHDS COPYRIGHT 2004 THOMSON DERWENT/ISI on STN
AN 1995-02570 BIOTECHDS
TI Overproduction and **purification** of Mycobacterium tuberculosis

chaperonin-10;
Autographa californica nuclear-polyhedrosis virus vector AcRP6.SC expression in Spodoptera frugiperda insect cell culture

AU Atkins D; Al-Ghusein H; Prehaud C; *Coates A R M
CS St.George's-Hosp.London; Inst.Virol.Oxford
LO Department of Medical Microbiology, St. George's Hospital Medical School, Cranmer Terrace, London SW17 0RE, UK.
SO Gene; (**1994**) 150, 1, 145-48
CODEN: GENED6 ISSN: 0378-1119
DT Journal
LA English
AN 1995-02570 BIOTECHDS
AB The Mycobacterium tuberculosis **chaperonin**-10 (Cpn10)-encoding gene was cloned into the Autographa californica nuclear-polyhedrosis virus vector AcRP6.SC containing the beta-galactosidase (EC-3.2.1.23) gene, and AcRP6-cpn10 recombinants were used to infect Spodoptera frugiperda (Sf) insect cells in culture. The soluble, recombinant Cpn10 protein was **purified** from infected cells by a combination of **preparative IEF** and size-exclusion chromatography; these 2 steps resulted in a yield of 5 mg protein from 1 l infected Sf cells, in 95% purity. This straightforward **purification** technique coupled with the baculo virus-based expression vector provides an extremely powerful system for the generation of highly **purified** mg quantities of the Cpn10 protein. This system is technically simple and does not provide a biological hazard to the operator. (11 ref)

L7 ANSWER 30 OF 30 DISSABS COPYRIGHT (C) 2004 ProQuest Information and Learning Company; All Rights Reserved on STN
AN 95:6916 DISSABS Order Number: AAR9434587
TI CRYSTALLOGRAPHIC CHARACTERIZATION OF HUMAN ENDOTHELIN AND THEORETICAL STUDIES OF MEMBRANE PROTEIN STRUCTURE
AU PEAPUS, DIANE HOPE [PH.D.]; BELL, JEFFREY A. [advisor]
CS RENSSELAER POLYTECHNIC INSTITUTE (0185)
SO Dissertation Abstracts International, (**1994**) Vol. 55, No. 8B, p. 3295. Order No.: AAR9434587. 248 pages.
DT Dissertation
FS DAI
LA English
ED Entered STN: 19950216
Last Updated on STN: 19950216
AB The main goal of this study was to determine structural information about proteins that interact with biological membranes in order to contribute to the understanding of their function. Several proteins were investigated by X-ray diffraction and a statistical survey was made in order to gain a better understanding of the structures of membrane proteins.

Human endothelin-1 (ET-1) is a potent vasoconstrictor that interacts with receptors on the surface of smooth muscle cells, causing sustained contractions. In this study, ET-1 was crystallized in two forms. One form produced weak, but well defined, powder patterns when examined by X-rays. The other form produced single crystal X-ray diffraction patterns to 2.98A and was characterized in the orthorhombic crystal system with cell dimensions a = 33.5A, b = 57.9A, c = 57.6A. The symmetry is consistent with space group P222 or P222$\sb1$, where characterization of the c-axis is obscured by absences that suggest a strong noncrystallographic six-fold screw approximately parallel to that axis.

Ubiquinol cytochrome c oxidoreductase (QCR) is a multisubunit protein/prosthetic-group complex embedded in the mitochondrial inner membrane, and is part of the electron transport chain. Its **purified** form is often heterogeneous with respect to the number of subunits, which could impede its crystallization. In this study, progress was made toward the separation of homogeneous fractions by **preparative isoelectric focusing** (**IEF**
).

SecB is a soluble cytoplasmic protein component of the protein export machinery of Gram-negative bacteria. It acts as a **chaperone** to secreted and membrane protein nascent chains during translocation through the cytoplasmic membrane. Little is known about its mode of interaction with the nascent chain or its active site conformation. In this study, conditions were screened which are frequently used in crystallization of soluble proteins, however, no crystallinity was observed.

Finally, using the solvent-inaccessible cores of a set of soluble proteins whose structures are known by X-ray crystallography, a statistical assessment was made to determine whether an amino acid is likely to adopt different conformations in the absence of solvent. It was hoped that the conformations of amino acids occurring in the buried portions of the soluble proteins would provide a better model for predicting the structure that residues will adopt in the hydrophobic environment of lipid membranes. Some small differences were seen between the conformations of some residues in the core and those in a general location in the protein.

=> log y

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